REMARKS/ARGUMENTS

Claims 1-20 are pending in this application. By this Amendment, Applicants AMEND Claims 1 and 15 and the Specification.

On pages 2 and 3 of the outstanding Office Action, the Examiner alleged that the Information Disclosure Statements, filed on August 18, 2003 and September 6, 2005, fail to comply with 37 C.F.R. §§ 1.97 and 1.98 and MPEP § 609. Applicants have filed an additional Information Disclosure Statement that corrects the informalities noted by the Examiner.

With respect to the Examiner's statements concerning the length of the Information Disclosure Statements in Section No. 4 on page 3 of the outstanding Office Action, the Examiner is reminded that he has previously considered most, if not all, of the references listed in these Information Disclosure Statements and Applicants are submitting these prior art references to fully satisfy their duty of disclosure.

Applicants respectfully request that the Examiner consider and initial Reference No. 67 in the Form PTO-1449 filed with the Information Disclosure Statement filed September 6, 2005 since it was not initialed in the copy of the Form PTO 1449 provided with the outstanding Office Action.

The Examiner objected to the Specification for not reflecting the current status of the parent applications. Applicants have amended the Specification to correct this minor informality. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the Specification.

The Examiner rejected Claims 1-20 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 5 and 20 of U.S. Patent No. 6,706,124 in view of Applicants' Admitted Prior Art (AAPA). The Examiner rejected Claims 1-20 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-6 of U.S. Patent No. 6,790,296 in view of Applicants' Admitted Prior Art (AAPA). The Examiner rejected Claims 1-20 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 7 and 8 of U.S. Patent No. 6,814,776. The Examiner provisionally rejected Claims 1-20 under the judicially created doctrine of obviousness-type double patenting

as being unpatentable over Claims 1-10 of co-pending Application No. 10/432,862 in view of Applicants' Admitted Prior Art (AAPA). The Examiner provisionally rejected Claims 1-20 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claim 8 of co-pending Application No. 10/484,072 and Claim 36 of co-pending Application No. 10/381,005, each taken in view of Applicants' Admitted Prior Art (AAPA). The Examiner provisionally rejected Claims 1-20 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 15 and 32 of co-pending Application No. 10/745,834 in view of Applicants' Admitted Prior Art (AAPA).

Applicants have filed a Terminal Disclaimer that disclaims the terminal portion of the statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 to 156 and 173, as shortened by any terminal disclaimer filed prior to the grant of commonly owned U.S. Patent Nos. 6,706,124; 6,790,296; and 6,814,776 and U.S. Patent Application Nos. 10/381,005; 10/432,862; 10/484,072; and 10/745,834.

Accordingly, Applicants request reconsideration and withdrawal of the double patenting rejections of Claims 1-20 based upon U.S. Patent Nos. 6,706,124; 6,790,296; and 6,814,776 and U.S. Patent Application Nos. 10/381,005; 10/432,862; 10/484,072; and 10/745,834.

The Examiner rejected Claims 1-20 under 35 U.S.C. § 103(a) as being obvious over each of U.S. Patent Nos. 6,706,124; 6,790,296; and 6,814,776. The Examiner rejected Claims 1-20 under 35 U.S.C. § 103(a) as being obvious over each of co-pending Application Nos. 10/381,005; 10/432,862; 10/484,072; and 10/745,834 which have a common inventor with the instant application. The Examiner alleged that Claims 1-20 are directed to an invention not patentably distinct from the claims of commonly assigned U.S. Patent Nos. 6,706,124; 6,790,296; and 6,814,776 and co-pending Application Nos. 10/381,005; 10/432,862; 10/484,072; and 10/745,834.

Applicants have filed a Statement under 35 U.S.C. § 103(c) stating that the subject matter of U.S. Patent Nos. 6,706,124; 6,790,296; and 6,814,776 and the subject matter of Application Nos. 10/381,005; 10/432,862; 10/484,072; and 10/745,834 and the

claimed invention of the present application were, at the time the claimed invention of the present application was made, owned by the same company or subject to an obligation of assignment to the same company.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections based upon U.S. Patent Nos. 6,706,124; 6,790,296; and 6,814,776 and Application Nos. 10/381,005; 10/432,862; 10/484,072; and 10/745,834. Further, Applicants respectfully submit that the issue of whether or not the present claimed invention is patentably distinct from the claims of U.S. Patent Nos. 6,706,124; 6,790,296; and 6,814,776 and Application Nos. 10/381,005; 10/432,862; 10/484,072; and 10/745,834 is moot in view of the Statement under 35 U.S.C. § 103(c).

The Examiner rejected Claims 1-20 under 35 U.S.C. § 102(a) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Kanekiyo et al. (EP 1 158 545). The Examiner rejected Claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over Ma et al. (US 6,332,933). The Examiner rejected Claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over Chang et al. "The Effects of Refractory Metals on the Magnetic Properties of α-Fe/$R_2Fe_{14}B$-Type Nanocomposites." The Examiner rejected Claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over Kanekiyo et al. (JP 2002-64009).

Applicants respectfully traverse the prior art rejections of Claims 1-20.

With respect to the prior art rejections of Claims 1-20 based upon Kanekiyo et al. (EP 1 158 545) and Kanekiyo et al. (JP 2002-64009), in accordance with MPEP § 201.15, Applicants have provided a certified English translation of the Japanese Priority Application No. 2001-354315, and a statement that the translation of the certified English translation is accurate.

Most features recited in Claims 1-20 are explicitly supported, for example, by Claims 1-20 of Japanese Priority Application No. 2001-354315. With respect to features that are not explicitly supported:

the equals portion in "$6 \leq y$" recited in Claim 1 is supported by paragraph no. [0140] of Japanese Priority Application No. 2001-354315;

the feature of "the average crystal grain size of the soft magnetic phases is

smaller than the average crystal grain size of the hard magnetic phases" recited in Claim 1 is found in paragraph no. [0086] of Japanese Priority Application No. 2001-354315;

the amended feature of "the Ti-containing nanocomposite magnetic powder particles include $R_2Fe_{14}B$ compound phase at 60 volume % or more" recited in Claim 1 is supported by, for example, paragraph no. [0097] of the present Specification and paragraph no. [0072] of Japanese Priority Application No. 2001-354315;

the amended feature of "the soft magnetic phase of the Ti-containing nanocomposite magnetic powder particles includes iron-based boride phase" recited in Claim 1 is supported by, for example, paragraphs nos. [0065] and [0081] of the present Specification and by paragraph nos. [0040] and [0056] of Japanese Priority Application No. 2001-354315;

the feature of "the soft magnetic phases are present on a grain boundary between the hard magnetic phases" recited in Claim 2 is supported by paragraph no. [0077] of Japanese Priority Application No. 2001-354315; and

the feature of "electronic appliance" recited in Claim 20 is supported by paragraph nos. [0178]-[0207] of Japanese Priority Application No. 2001-354315.

Because Japanese Priority Application No. 2001-354315 supports each of Claims 1-20 and because Japanese Priority Application No. 2001-354315 was filed on November 20, 2001, Applicants respectfully submit that Kanekiyo et al. (EP 1 158 545) and Kanekiyo et al. (JP 2002-64009) do not qualify as prior art under 35 U.S.C. § 102(a) because the publication dates of Kanekiyo et al. (EP 1 158 545) and Kanekiyo et al. (JP 2002-64009) of November 28, 2001 and February 28, 2002, respectively, are **after** the effective filing date of November 20, 2001 of Claims 1-20 the present application.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 1-20 under 35 U.S.C. § 102(a) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Kanekiyo et al. (EP 1 158 545) and the rejection of Claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over Kanekiyo et al. (JP 2002-64009).

Applicants' Claim 1 recites:

> A compound for a rare-earth bonded magnet, the compound comprising a rare-earth alloy powder and a binder,
>
> wherein the rare-earth alloy powder includes at least about 2 mass % of Ti-containing nanocomposite magnet powder particles, and
>
> the Ti-containing nanocomposite magnet powder particles have a composition represented by the general formula:
>
> $(Fe_{1-m}T_m)_{100-x-y-z}Q_xR_yM_z$
>
> where T is at least one element selected from the group consisting of Co and Ni; Q is at least one element selected from the group consisting of B and C and always includes B; R is at least one rare-earth element substantially excluding La and Ce; M is at least one metal element selected from the group consisting of Ti, Zr and Hf and always includes Ti; and the mole fractions x, y, z and m satisfy the inequalities of: 10 at%$<x\leq$20 at%; 6 at%$\leq y<$10 at%; 0.1 at%$\leq z\leq$12 at%; and $0\leq m\leq 0.5$, respectively,
>
> the Ti-containing nanocomposite magnet powder particles include at least two ferromagnetic crystalline phases, in which hard magnetic phases have an average crystal grain size of about 10 nm to about 200 nm, soft magnetic phases have an average crystal grain size of about 1 nm to about 100 nm, and the average crystal grain size of the soft magnetic phases is smaller than the average crystal grain size of the hard magnetic phases,
>
> **the Ti-containing nanocomposite magnetic powder particles include $R_2Fe_{14}B$ compound phase at 60 volume % or more**, and
>
> the soft magnetic phase of the Ti-containing nanocomposite magnetic powder particles includes iron-based boride phase. (emphasis added)

In Section No. 1 on pages 6-8 of the outstanding Office Action, the Examiner alleged that the alloys of Ma et al. would be expected to have each feature recited in Applicants' Claim 1.

Applicants have amended Claim 1 to recite the feature of "the Ti-containing nanocomposite magnetic powder particles include $R_2Fe_{14}B$ compound phase at 60 volume % or more."

Ma et al. is silent as to the percentage volume of the $R_2Fe_{14}B$ compound phase and certainly fails to teach or suggest the percentage volume of the $R_2Fe_{14}B$ compound phase is 60% or more as recited in Applicants' Claim 1.

Thus, Applicants respectfully submit that Ma et al. fails to teach or suggest the

feature of "the Ti-containing nanocomposite magnetic powder particles include $R_2Fe_{14}B$ compound phase at 60 volume % or more" as recited in Applicants' Claim 1.

Assuming *arguendo* that the Examiner has established a *prima facie* case of obviousness, Applicants respectfully submit that their claimed rapidly solidified alloy achieves unexpected results compared to the alloys of Ma et al.

Unexpected results can be established by showing that Applicants' claimed invention achieves substantially improved results and by stating that the substantially improved results of Applicants' claimed invention were unexpected. *In re Soni*, 54 F.3d 746 (CAFC 1995) and MPEP § 2144.08.

As explained in paragraph no. [0120] of the present Specification, the results achieved by Applicants' claimed invention were unexpected. Furthermore, Applicants provided a Declaration under 37 CFR § 1.132 in parent application U.S. Patent Application No. 09/986,390 to further illustrate and establish the unexpected results of Applicants' claimed invention. Applicants enclose a copy of the Declaration under 37 CFR § 1.132 for the Examiner's convenience.

With respect to showing substantially improved results, the Examiner is referred to the table in Exhibit A attached to the Declaration under 37 CFR § 1.132. The combined magnetic properties of B_r, H_{cJ}, and $(BH)_{max}$ of each of the Examples 8, 11, and 21-23 are substantially improved compared to the respective combined magnetic properties of B_r, H_{cJ}, and $(BH)_{max}$ of each of the Comparative Examples 2, 4, and 7 in the Table of Exhibit A.

With respect to the statement of unexpected results, the Examiner is referred to paragraph [0120] of the present Specification and to the statement regarding the same contained in the attached Declaration under 37 CFR § 1.132.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of Claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Ma et al.

In Section No. 2 on pages 8 and 9 of the outstanding Office Action, the Examiner alleged that the alloys of Chang et al. would be expected to have each feature recited in Applicants' Claim 1.

As noted above, Applicants have amended Claim 1 to recite the feature of "the

Ti-containing nanocomposite magnetic powder particles include $R_2Fe_{14}B$ compound phase at 60 volume % or more."

Chang et al. is silent as to the percentage volume of the $R_2Fe_{14}B$ compound phase and certainly fails to teach or suggest the percentage volume of the $R_2Fe_{14}B$ compound phase is 60% or more as recited in Applicants' Claim 1. Further, Chang et al. teaches that it is preferable to increase the percentage of Nd from to 9.5 at% to 11.0 at% in order to make $Nd_2Fe_{14}B$ phase and α-Fe phase smaller. The additive refractory metal element is used to suppress the generation of borides (e.g., $R_2Fe_{23}B_3$ or Fe_3B) and to obtain a magnet including only two phases of $Nd_2Fe_{14}B$ phase and α-Fe phase.

Thus, Applicants respectfully submit that Chang et al. fails to teach or suggest the feature of "the Ti-containing nanocomposite magnetic powder particles include $R_2Fe_{14}B$ compound phase at 60 volume % or more" as recited in Applicants' Claim 1.

Further, as noted above, assuming *arguendo* that the Examiner has established a *prima facie* case of obviousness, Applicants respectfully submit that their claimed rapidly solidified alloy achieves unexpected results compared to the alloys of Chang et al. for the reasons stated above

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of Claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Chang et al.

Accordingly, Applicants respectfully submit that the prior art of record, applied alone or in combination, fails to teach or suggest the unique combination and arrangement of elements recited in Claim 1 of the present application. Claims 2-20 depend upon Claim 1 and are therefore allowable for at least the reasons that Claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicants petition the Commissioner for a TWO-month extension of time, extending to April 18, 2006, the period for response to the Office Action dated November 18, 2005.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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